

Denmark. At Earl's-court was the villa of the celebrated surgeon, John Hunter.

Kensington Palace was the seat of Sir Heneage Finch, afterwards Earl of Nottingham and Lord Chancellor of England; his son sold it to King William soon after the accession of that monarch to the throne. Kensington Gardens were originally only 26 acres, Queen Anne added 30 acres, 300 acres were afterwards taken from Hyde Park and added thereto. It is a very irregular building.

(To be continued.)

TIMBER—ITS TREATMENT AND USES.

BY JAMES WILSON.

(Continued from p. 394.)

50. **CHESTNUT.**—The sweet or Spanish chestnut is a hard and compact wood, so similar to the oak in colour and general appearance, that it is sometimes mistaken for it; it is, however, to be distinguished by the absence of the larger transverse septa; besides which, it will be observed in old wood, that the sap-wood is somewhat whiter, and the heart-wood a little browner, than in oak; also, the pores of its sap-wood are scarcely visible, while in oak they are large, thickly set, and distinctly apparent. It also differs from the oak in another respect referred to in article 29; and it is more easy to work than those of native growth. The annual rings are very distinct, one side being porous, and the other compact.

51. It is a native of many parts of Europe, and flourishes in the dry, congenial soil of the southern, and the warmer of the mountainous parts; the largest being found on Mount Etna, in Sicily: in the south it is chiefly regarded as a fruit-tree. It is of rapid growth, and long-lived, particularly if grown in a rich, dry, and sandy loam; if sprung from a moist soil, it is less firm in texture, and more liable to split, shrink, and swell with the variations of the weather; although, under no circumstances is it so subject to these disadvantages as other woods generally. When favourably situated, the tree may attain the age of 1,000 years.

52. With the oak, to which as a tree it is a formidable rival, although inferior in girth, it is pre-eminent as to hardness and durability; and, indeed, the young wood, which is tough and flexible, even excels the other in these respects, the proportion of sap-wood being also very small. It is applicable to the same uses as the oak, though in strength somewhat inferior to it. But from a brittleness which is in its nature when of mature growth, along with shakes to which it is somewhat subject, the wood of old trees is unsafe for beams and other bearing purposes as have to sustain a great or undefined load, being often decayed and rotten within when it has a very fair appearance without; it is then liable to break without affording any warning. It is also said to be very liable to decay if deprived of the salutary influence of ventilation; on which account, the ends of beams, when let into walls, should rest upon stone templates, in arched openings prepared for them, a free circulation of air being thus admitted all round.* The above circumstances being all considered, it appears that the young is more valuable than the old wood.

53. It is much to be desired that this handsome forest-tree, so advantageous for beauty and usefulness, were even more cultivated in England than it now is; in early times it was very plentiful: and, from the evidence that is afforded by roofs and other parts of many of our old buildings, we are led to suppose that it was the principal timber adopted; although, it must be confessed that instances are not rare wherein such as have been long considered as constructed of it, have, on closer examination, proved to be really of oak. In the south of England it thrives, we may say, to perfection, attaining in fifty or sixty years as many or more feet in height. Even at this age, however, the quality of the wood is on the decline, getting ring-shaken, and otherwise less firm; at an age so early as forty years it is in perfection, notwithstanding it grows for centuries after. It is raised from the nut, which should be

sown in February, dibbled in in-rows, and kept free from bottom shoots whilst in the nursery. Its foliage depends in splendid masses, its leaves long, lanceolate, and deeply serrated. The trunk is characterized by the deep and wide clefts with which it is marked. Its bark is sometimes used for tanning, but for that purpose it is inferior to oak bark.

54. Young coppice trees are, for straightness and durability, much esteemed for hop-poles, spars, parrings, rails, posts, and gates, and other purposes, where large wood is not; the timber of a more advanced growth is advantageous. It is also well adapted for the formation of casks, water-pipes, and other receptacles of liquids; the Italians use it for wine-tins.

55. The American is said to be in all its properties and qualities very similar to the European chestnut; the young wood being tough and flexible, much esteemed for fence-work; the old wood brittle and shaky.

(To be continued.)

THE NATURE OF DESIGN.

A Paper read at the meetings of the Decorative Art Society, March 13th and 21th.

BY MR. CRABE, F.P., MEMBER OF THE INSTITUTE OF FINE ARTS.

(Continued from p. 399.)

Rome acquired her art through conquest; she imitated the buildings of countries subjected by her arms, and transported statues, pictures, and works of gold and silver, to adorn her capital. The produce of Athens, Delphi, and Elis, filled Rome with the rarest productions of the fine arts. The increasing power, when Julius Cæsar and Augustus held supreme sway, was auspicious to the general interests of the Fine Art; the emperors made great efforts to increase the splendour and magnificence of Rome, and their policy extended a similar course throughout the empire, considering that it tended to fix authority, give general security, and contribute to the happiness of the people. This example was universally followed by their subjects, who had spirit to conceive and wealth to accomplish the noblest undertakings. The opulent senators of Rome and the provinces esteemed it an honour, and almost an obligation, to adorn the splendour of their age and country; the influence of fashion very frequently supplying the want of taste or generosity. It was within a period of 300 years that the luxurious adornment of Rome took place. The sculptors were universally Greeks; and though wealth and honour drew men of talent to Rome, and somewhat revived Grecian excellence, the creative spirit, the spark of vitality, infusing life and soul, originality and thought into their productions, could not be recalled. In the best age of Roman art the demand was chiefly for statues of personal representation, in which a vitiated taste often required the embellishment of colour, by the admixture of coloured marbles or bronze. The same departure from simplicity pervaded their architecture. The most extensive and magnificent structures were erected, but in heavier proportions than the elegant Greek. Every member in the cornice of temple or public edifice became encumbered with a profusion of ornament, and an imposing heaviness of enrichment was the result. The interior of their buildings was decorated by sculpture and painting, and manufacturing design entered freely into their general domestic service. You have Sir W. Gell's fine work on Pompeii; and Sir H. Englefield's Etruscan Vases; several villa façades, the magnificent decorations of Titus' baths, and some fine specimens of colouring and modern adaptation before you.

The splendid and colossal edifices which adorned their cities; temples, palaces, and baths, were crowded with works of art. Trajan's Basilica was most magnificent; its forum, temple, and approaches, crowded 12 acres; the hall, 540 by 168 feet, would have contained our St. Paul's; and its column was enriched by sculpture descriptive of the Roman victories over the Dacians. The theatre of Marcellus was arranged in three tiers of columns, the lower of marble, the next of vitrified glass, and the upper of gilded wood: it contained 3,000 statues in bronze. The palace of Diocletian at Spalro was very celebrated; his baths accommodated 18,000 persons at one time. Those of Caracalla covered 13 acres. These baths were a sort of vast club, in which every

exercise of body or mind might be taken, every delight of the senses indulged, and the whole people met there. Gardens were raised about 50 feet above the general level, adorned with pavilions, and a great central building having an immense hall, obelisks and fountains, fragrant shrubs, flowers, and the finest statues. During the first 300 years of the Christian era seven of these baths were erected, well calculated to indulge that love of luxury which rapidly corrupted the Roman manners under the emperors, gratifying the constant love of excitement in novelty and splendour, which then gave popularity to the Government. The number and beauty of their villas were amazing; built on the model of the Persian palaces, their interior decorations were full of choice design, chiefly executed in fresco, and by artists of eminence. The luxurious description given of the furnishing of these villas, their richly wrought plate, &c. &c., convey certain intimations of the encouragement given to manufacturing design. Hadrian's villa, at Tivoli, inclosed by a wall ten miles in circuit, contained the most magnificent embellishments. Pliny's villa and that of Lucullus were very celebrated; each had gardens of great splendour.

We must not overlook Palmyra built by Dionysius, whose magnificent ruins, replete with elegant design, attract the traveller's attention. Balbec, not less celebrated, boasts of the well-known Temple of the Sun—

"Whose lonely columns stand sublime,
Flinging their shadows from on high,
Like dials which the wizard Time
Had raised to count his age by."

Every thing appertaining to this enterprising nation of conquerors was upon a mighty scale. They lived constantly in public, assuming an excess of vast magnificence in their habits, public exhibitions, and triumphal processions; and I may also add, in their arts and manufactures. They held tribute over all the civilized world, and have left monuments of their greatness at the uttermost confines of their empire.

Byzantine art arose through the impatience of Constantine, and the inefficiency of his architects employed to erect the first Christian city; it presents a rich admixture of the plunder from other styles; several parts of Europe adopted it:—Moscow and the south of Russia, and also the regions along the Mediterranean coast.

The Arabian, or Moresque, took its rise among a people whose extraordinary conquests and quick perception of the beautiful enabled them to graft new combinations upon ancient Eastern architecture. At the time when other nations were again sinking into barbarism, they became a medium for preserving that knowledge which has descended to us. Their ornament was elaborate and geometrical, and distinguished by delicacy of execution; and the principle of their colouring gorgeous, as that of the eastern nations. I need only mention Mr. Owen Jones's magnificent publication upon the Alhambra Palace, in illustration.

The dismemberment of the Roman empire obscured the arts; and in the thirteenth and fourteenth centuries we find the church its only patron. During the middle ages Gothic architecture was extensively adopted; its singular and beautiful ornaments are exceedingly interesting, and frequently display very considerable talent in the principles of design. The Jesuits studied the arts, especially architecture, and have produced some of the finest perspective effects in the world; their noviciate, extending to thirty years, gave ample time and leisure for deep research, and they are considered to have produced greater benefits and greater evils than any other ecclesiastical body.

Early in the fifteenth century, immense efforts were made to restore classical architecture and ornamental embellishments, and consequently all the extensive ramifications of manufacturing design. Art quickly became the idol of the people, and there appeared some of the greatest names that ever graced the annals of art; powerful princes were patrons, and the utmost encouragement was afforded by the illustrious merchant family of Medici, the Pope's Leo X., Julius II. and Clement VII. Architecture, painting, and general decorative art, pressed forward with amazing success; all the minor discoveries had been gradually developed, and art reached its most distinguished eminence before the close of the fifteenth century. The splendid talents of Leonardo da Vinci distanced all former excellence; naturally possessing the

* [Care must be taken not to lay wood upon moist stone, which is sure to cause its decay: we generally take the precaution of interposing plates of lead or iron between stone and bearing-timbers, and carefully exclude timber board from stone walling.—Ed.]